

Claims

We claim:

5           1.    A selective position lawn mower discharge chute cover comprising, in combination:

          a vertical bar having a first end defining a handle and a second end fixedly attached to a pivot bar wherein said pivot bar is rotatably disposed between a first  
10 pivot stanchion and a second pivot stanchion;

          a generally horizontal pivot arm having a first end attached to said pivot bar and a second end defining a crank plate wherein said crank plate further defines an aperture;

15           a cam plate comprising a cam pin and a drive pin, wherein said cam plate is rotatably attached to a third pivot stanchion and wherein said cam pin is received in said crank plate aperture;

          a chute cover door fixedly attached to a first lift  
20 plate and a second lift plate wherein said first lift plate is rotatably attached to said third pivot stanchion and said second lift plate is rotatably attached to a fourth pivot stanchion; and

          a tension means for maintaining said chute cover in  
25 an open position when opened and a closed position when closed.

          2.    The selective position lawn mower discharge chute cover of claim 1 further comprising a staybar  
30 fixedly attached to said second lift plate.

          3.    The selective position lawn mower discharge chute cover of claim 2 wherein said staybar operates to

maintain said chute cover door in a partially open position.

4. The selective position lawn mower discharge chute cover of claim 1 wherein said tension means comprises a spring fixedly attached at a first end to said second lift plate and attached at a second end to a spring retention bracket.

5. The selective position lawn mower discharge chute cover of claim 1 further comprising a limiting means to prevent over-rotation of the chute door when in an open position.

6. The selective position lawn mower discharge chute cover of claim 4 wherein said limiting means comprises a shock pad.

7. The selective position lawn mower discharge chute cover of claim 5 wherein said shock pad comprises a resilient material selected from the group consisting of rubber, plastic, nylon, vinyl, polyethylene and cork.

8. The selective position lawn mower discharge chute cover of claim 1 wherein said chute cover is mounted to the cutting deck of a lawn mower.

9. The selective position lawn mower discharge chute cover of claim 8 wherein said chute cover is mounted substantially perpendicular to the discharge flow of the lawn mower.

10. A selective position lawn mower discharge chute cover for mounting to the cutting deck of a lawn mower comprising, in combination:

5 a vertical bar having a first end defining a handle and a second end fixedly attached to a pivot bar wherein said pivot bar is rotatably disposed between a first pivot stanchion and a second pivot stanchion;

10 a generally horizontal pivot arm having a first end attached to said pivot bar and a second end defining a crank plate wherein said crank plate further defines an aperture;

15 a cam plate comprising a cam pin and a drive pin, wherein said cam plate is rotatably attached to a third pivot stanchion and wherein said cam pin is received in said crank plate aperture;

20 a chute cover door fixedly attached to a first lift plate and a second lift plate wherein said first lift plate is rotatably attached to said third pivot stanchion and said second lift plate is rotatably attached to a fourth pivot stanchion; and

25 a spring attached at a first end to said second lift plate and attached at a second end to a spring retention bracket wherein said spring retention bracket maintains constant tension on said spring.

25

11. The selective position lawn mower discharge chute cover of claim 10 further comprising a limiting means to prevent over-rotation of the chute door when in an open position.

30

12. The selective position lawn mower discharge chute cover of claim 11 wherein said limiting means

comprises a shock pad.

13. The selective position lawn mower discharge chute cover of claim 12 wherein said shock pad comprises  
5 a resilient material selected from the group consisting of rubber, plastic, nylon, vinyl, polyethylene and cork.

14. The selective position lawn mower discharge chute cover of claim 10 wherein said chute cover is  
10 mounted to the cutting deck of a lawn mower.

15. The selective position lawn mower discharge chute cover of claim 8 wherein said chute cover is mounted substantially perpendicular to the discharge flow  
15 of the lawn mower.

16. A method of selectively opening or closing a lawn mower discharge chute cover apparatus comprising:  
rotating a vertical bar from a first position to a  
20 second position, said vertical bar having a first end defining a handle and a second end fixedly attached to a pivot bar wherein said pivot bar is rotated between a first pivot stanchion and a second pivot stanchion and further rotates a pivot arm,  
25 said pivot arm having a first end attached to said pivot bar and a second end defining a crank plate wherein said crank plate further defines an aperture and engages a cam pin in a cam plate,  
said cam plate further comprising a drive pin,  
30 wherein said cam plate is rotated about a third pivot stanchion and engages a lift plate, said lift plate attached to a chute cover door further attached to a second lift plate rotating about a fourth pivot stanchion

wherein said chute cover rotates between said third pivot stanchion and said fourth pivot stanchion, and

attaching a spring at a first end to said second lift plate and attached at a second end to a spring retention bracket wherein said spring retention bracket maintains constant tension on said spring wherein the movement of said handle from a first position to a second operates to open said chute door and wherein movement of the handle in a second direction operates to close said door.

17. The method of claim 16 wherein said method further comprises attaching a line tag means for said preventing over-rotation of the chute door when in an open position.

18. The method of claim 17 wherein said limiting means comprises a shock pad.

19. The method of claim 18 wherein said shock pad comprises a resilient material selected from the group consisting of rubber, plastic, nylon, vinyl, polyethylene and cork.

The method of claim 16 mounting an opening and closing apparatus substantially perpendicular to the discharge flow of said lawn mower.